

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of routing a message ~~from a source node to a destination node~~ in a network comprising a plurality of nodes, the method comprising:

transmitting a first message from a the source node to a the destination node along a plurality of paths, wherein the plurality of paths includes a first path, and further wherein the first path includes a first intermediate node and a second intermediate node;

generating a first time stamp and a second time stamp at the first intermediate node, wherein the first time stamp corresponds to receipt of the first message at the first intermediate node and the second time stamp corresponds to transmission of the first message from the first intermediate node to the second intermediate node;

generating a third time stamp and a fourth time stamp at the second intermediate node, wherein the third time stamp corresponds to receipt of the first message at the second intermediate node and the fourth time stamp corresponds to transmission of the first message by the second intermediate node;

~~receiving said first message at said destination node;~~

~~transmitting a second message from said destination node in response to the first message, wherein at least one of said first message and said second message is sent between the source and destination nodes via a plurality of paths, wherein at least one of the plurality of paths comprises at least one intermediate node;~~

calculating a propagation delay between the first intermediate node and the second intermediate node, wherein the propagation delay comprises a difference between the second time stamp and the third time stamp; and

selecting [[a]] the first path from the plurality of paths for communication between the source node and the destination node based at least in part on [[a]] the propagation delay of

~~the path, wherein the propagation delay is a time taken for at least one of said second message and said first message to propagate between each node on the path.~~

2. (Currently Amended) The [[A]] method of routing a message as claimed in claim 1, further comprising:

receiving the first message at the destination node; and

transmitting a second message from the destination node to the source node in response to the first message, wherein the second message is transmitted along the plurality of paths, wherein the propagation delay is obtained at least in part by time stamping the at least one of the first and second message when the at least one of the first and second message is transmitted from each node on the path.

3. (Currently Amended) The [[A]] method of routing a message as claimed in claim 1, further comprising generating a fifth timestamp corresponding to receipt of the first message at a third intermediate node in communication with the second intermediate node, wherein the propagation delay is obtained at least in part by time stamping the at least one of the first and second messages when the at least one of the first and second messages is received at each node on the path.

4. (Currently Amended) The [[A]] method of routing a message as claimed in claim [[1]] 3, further comprising calculating a second propagation delay, wherein the second propagation delay comprises a difference between the fourth time stamp and the fifth time stamp, wherein the propagation delay is obtained by calculating an actual time taken for the at least one of the first and second messages to propagate between each node and storing the calculated actual times taken in the at least one of the first and second messages.

5. (Currently Amended) The [[A]] method of routing a message as claimed in claim 4, further comprising calculating an overall propagation delay of the first path based at least in part on a sum of the propagation delay and the second propagation delay, wherein the first path is selected based on the overall propagation delay of the first path, wherein the method comprises summing the calculated actual times taken stored in the at least one of the first and second messages in order to determine the propagation delay.

6. (Canceled)

7. (Currently Amended) The [[A]] method of as-claimed-in claim 5, further comprising calculating a processing delay of the first intermediate node, wherein the processing delay comprises a difference between the first time stamp and the second time stamp, and further wherein the first path is selected based at least in part on the processing delay, comparing the propagation delay to a transmission duration, wherein the transmission duration comprises a time between transmitting the at least one of the first and second messages from either the source or destination node and receiving the at least one of the first and second messages at either the source or destination node.

8. (Currently Amended) The [[A]] method of routing a message in accordance with claim 1, further comprising:

measuring a signal quality of the at least one of the first and second messages at the first intermediate node each node on the path; and

selecting the first path for communication between the source node and the destination node based at least in part on the measured signal quality.

9. (Currently Amended) The [[A]] method as-claimed-in of claim 8, further comprising storing the measured signal quality in the at least one of the first and second messages.

10. (Currently Amended) The [[A]] method of routing a message in accordance with claim 1, further comprising:

calculating a distance between the first intermediate each node and the second intermediate node; and

selecting the first path for communication between the source node and the destination node based at least in part on the calculated distance.

11. (Currently Amended) The ~~[[A]]~~ method of as-claimed-in claim 10, further comprising storing the calculated distance in the ~~at least one of said first and second~~ messages.

12. (Currently Amended) The ~~[[A]]~~ method of routing a message in accordance with claim 1, further comprising:

calculating a velocity of the first ~~at least one~~ intermediate node; and

selecting the first path for communication between the source node and the destination node based at least in part on the calculated velocity.

13. (Currently Amended) The ~~[[A]]~~ method of as-claimed-in claim 1, further comprising:

measuring a power attributes of the first ~~at least one~~ intermediate node; and

selecting the first path for communication between the source node and the destination node based at least in part on said measured power attribute.

14. (Currently Amended) The ~~[[A]]~~ method of as-claimed-in claim 1, further comprising:

assessing a link stability of the first ~~plurality of~~ paths; and

selecting the first path for communication between the source node and the destination node based at least in part on said assessed link stability.

15. (Currently Amended) The ~~[[A]]~~ method of as-claimed-in claim 1, further comprising:

identifying a ~~assessing a required~~ Quality of Service of ~~at least one of the first~~ message ~~and the second message~~; and

selecting the first path for communication between the source node and the destination node based at least in part on the ~~required~~ quality of service.

16. (Currently Amended) ~~The~~ [[A]] method ~~of as-claimed in claim 1~~ comprising:

measuring a first position of the ~~first at least one~~ intermediate node at a first time;

measuring a second position of the ~~first at least one~~ intermediate node at a second time;

calculating a velocity of the ~~first at least one~~ intermediate node using the first position and the second position;

storing the calculated velocity in the ~~at least one of the first and second~~ messages; and

selecting the ~~first~~ path for communication between the source node and the destination node based at least in part on said stored velocity.

17. (Currently Amended) The method ~~of as-claimed in claim 1~~, further comprising using wherein a routing algorithm uses a priority value to weight a parameter based on a priority value, wherein which is used for selecting the path for communication between the source node to the destination node is based at least in part on the weighted parameter.

18. (Currently Amended) ~~The~~ [[A]] method ~~of as-claimed in claim 1~~, further comprising using wherein a routing algorithm uses a mapping value to determine that indicates a degree to which a measured parameter value meets a predefined parameter value.

19. (Currently Amended) ~~The~~ [[A]] method ~~of as-claimed in claim 1~~, wherein said network is an ad hoc wireless network.

20. (Currently Amended) ~~The~~ [[A]] method ~~of as-claimed in claim 1~~, wherein the ~~first at least one~~ intermediate node is a mobile station.

21. (Currently Amended) An ad hoc wireless network comprising:

a plurality of nodes that form a plurality of paths between wherein a source node and a destination node, wherein the source node is configured arranged to transmit a first message to the [[a]] destination node along a first path of the plurality paths, said destination node is

~~arranged to receive said first message, said destination node is arranged to transmit a second message in response to said first message;~~

~~a first at least one intermediate node along the first path, wherein the first intermediate node is configured to generate a first time stamp corresponding to receipt of the first message at the first intermediate node and a second time stamp corresponding to transmission of the first message from the first intermediate node to a second intermediate node along the first path; arranged to transmit at least one of said first message and said second message via a plurality of paths; and~~

~~the second intermediate node configured to generate a third time stamp corresponding to receipt of the first message at the second intermediate node; and~~

~~selecting means configured to select the first [[a]] path from said plurality of paths for communication between said source node and said destination node based at least in part on a propagation delay between the first intermediate node and the second intermediate node, wherein the propagation delay comprises a difference between the second time stamp and the third time stamp. of the path, wherein the propagation delay is a time taken for at least one of said second and first messages to propagate between each node on the path.~~

22. (Canceled)

23. (Currently Amended) The [[An]] ad hoc network of ~~as claimed in~~ claim 21, wherein ~~each node on the path comprises means to store the propagation delay is stored in the~~ at least one of the first and second messages.

24. (Currently Amended) The [[An]] ad hoc network of ~~claimed in~~ claim 21 further comprising:

means for measuring to measure a signal quality of the ~~at least one of the first and second~~ messages;

wherein said selecting means is further configured to select the first path for communication between the source node and the destination node based at least in part on said measured signal quality.

25. (Currently Amended) The ~~[[An]]~~ ad hoc network of ~~as claimed in~~ claim 21, further comprising:

processing means for calculating ~~to calculate~~ a distance between the first intermediate ~~each node and the second intermediate node~~; and

wherein said selecting means is further configured to select the first path for communication between the source node and the destination node based at least in part on the calculated distance.

26. (Currently Amended) The ~~[[An]]~~ ad hoc network of ~~as claimed in~~ claim 21, further comprising:

processing means for calculating a velocity of the first ~~at least one~~ intermediate node; and

wherein said selecting means is further configured to select the first path for communication between the source node and the destination node based at least in part on the calculated velocity.

27. (Currently Amended) The ~~[[An]]~~ ad hoc network of ~~as claimed in~~ claim 21 further comprising:

means for measuring ~~a to measure~~ power attributes of the first ~~at least one~~ intermediate node;

wherein said selecting means is configured to select the first path for communication between the source node and the destination node based at least in part on said measured power attributes.

28. (Currently Amended) The ~~[[An]]~~ ad hoc network of ~~as claimed in~~ claim 21, further comprising:

means for determining ~~to assess~~ a link stability of the first ~~plurality of~~ paths; and

wherein said selecting means is further configured to select the first path for communication between the source node and the destination node based at least in part on said assessed link stability.

29. (Currently Amended) The ~~[[An]]~~ ad hoc network of ~~as claimed in claim 21,~~
further comprising:

means for identifying to assess a required quality of service of the first message; and

wherein said selecting means is further configured to select the first path for communication between the source node and the destination node based at least in part on the required quality of service.

30. (Currently Amended) The ~~[[An]]~~ ad hoc network of ~~as claimed in claim 21,~~
wherein:

said selecting means is configured to select a plurality of candidate routes;

said network further comprises mapping means for mapping said plurality of candidate routes to a plurality of quality of service classes; and

wherein said selecting means is further configured to select the first path from said plurality of candidate routes based at least in part on such that the path is mapped to a required quality of service of the first message.

31. (Currently Amended) A node in an ad hoc wireless network, ~~said ad hoc network comprising a plurality of nodes,~~ said node comprising:

means for receiving a and transmitting at least one of a plurality of messages transmitted from a source node along sent on a plurality of communication paths including a first communication path, wherein the first communication path includes a first intermediate node and a second intermediate node; from a source node to a destination node;

means for identifying indicating a first time that said at least one message is received at the first intermediate node;

means for ~~identifying~~ indicating a second time that said ~~at least one~~ message is transmitted from the first intermediate node to the second intermediate node; and

means for identifying a third time that the message is received at the second intermediate node, wherein the first time, the second time, and the third time are stored in a metrics field of the message;

means for determining a propagation delay between the first intermediate node and the second intermediate node, wherein the propagation delay comprises a difference between the second time and the third time; and

means for selecting the first communication path for communication with the source node based at least in part on the propagation delay.

~~means for storing the first time and the second time in a metrics field of the at least one message such that a propagation delay of the at least one message can be determined, wherein the propagation delay is an amount of time that the at least one message is in between nodes as the at least one message travels from the source node to the destination node.~~

32. (Currently Amended) ~~The~~ [[A]] node of as claimed in claim 31, wherein ~~[[]] the means for indicating the first time corresponds to a first time stamp, and the second time corresponds to a second time stamp, and the third time stamp corresponds to a third time stamp, are provided by time stamping the at least one message.~~

33. (Canceled)

34. (Canceled)

35. (Currently Amended) ~~The~~ [[A]] node of as claimed in claim 31, further comprising means for calculating a distance between the first intermediate node and [[a]] the second intermediate node based at least in part on the propagation delay, indication of the first time at which the at least one message is received at the node and an indication of a third time at which the at least one message is transmitted from the second node.

36. (Currently Amended) The [[A]] node of as claimed in claim 31, further comprising selecting means for sending a second message to the source node in response to the message, wherein the second message is sent along the first path, to select a path from said plurality of communication paths on which to transmit messages based at least in part on the propagation delay.